

The Impact of Earnings Management on Audit Quality: The Intermediary Role of the Occupation of Funds by Major Shareholders

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Abstract: As a crucial means for corporate management to adjust financial reporting data, the impact of earnings management on audit quality not only concerns the effectiveness of internal governance within enterprises but also affects the decision-making of external stakeholders and the efficiency of resource allocation in the capital market. In addition, the behavior of major shareholders who occupy funds, as a typical manifestation of agency problems in corporate governance, is often closely related to earnings management and plays a significant role in the relationship between the two. This paper utilizes data from A-share listed companies in Shanghai and Shenzhen from 2007 to 2023 as the research sample to investigate the impact of earnings management behavior on audit quality.

Keywords: Earnings Management; Occupation of Funds by Major Shareholders; Audit Quality

1. Introduction

In the study of modern corporate governance and audit supervision, the relationship between earnings management and audit quality is a major concern for theorists and practitioners. Corporate earnings management can impact financial statement quality by manipulating financial information^[1]. Audit quality serves as a key defense to ensure the authenticity and reliability of this information^[2]. However, agency conflict within enterprises may play a crucial role. The occupation of corporate funds by major shareholders, a typical agency problem^[3], offers a unique perspective on understanding this mechanism. When major shareholders use company funds for personal gain, it distorts resource allocation and financial operations^[4]. This can drive earnings management behavior^[5] and impact audit work, as well as the quality of audit assessments. In 2023, the China Securities Regulatory Commission and other departments emphasized stronger oversight of listed companies' illegal fund occupation. This initiative aims to maintain capital market health and underscores the importance of studying fund occupation by major shareholders. Previous scholars have discussed factors influencing earnings management^{[6][7]} and audit quality^{[8][9][10]}. However, research still lacks insight into how earnings management affects audit quality through the controlling shareholder's fund occupation. Today, with increased attention to corporate governance and audit supervision, analyzing the links between earnings management, major shareholder fund occupation, and audit quality is essential. Clarifying the role of fund occupation helps improve governance, audit quality, and offers theoretical and practical support for financial compliance and regulatory strengthening. Therefore, this paper focuses on earnings management's impact on audit quality. It introduces major shareholder fund occupation as a mediating variable to explore the mechanism among the three, aiming to provide new insights for optimizing governance and audit practices. Figure 1 shows the research path.

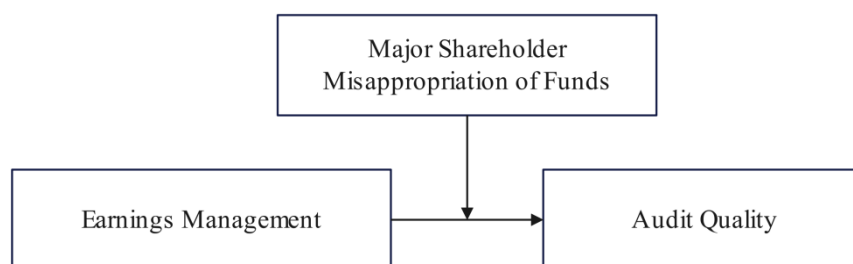


Figure 1: Research Path.

2. Theoretical Analysis and Research Hypothesis

2.1 Earnings Management and Audit Quality

The core manifestation of audit quality is to ensure the authenticity and reliability of financial information through independent and objective professional authentication, and to reveal potential governance risks of enterprises through a risk-oriented supervision mechanism. However, compared to the previous audit environment, the current audit quality faces greater risks of corporate earnings manipulation and dynamic adjustments in external supervision^{[11][12][13]}. These risks can lead to a significant decline in the quality of corporate audits. Therefore, modern enterprise auditing requires auditing institutions to strengthen their ability to identify earnings manipulation and improve their adaptability to regulatory policies, and to build more accurate risk-oriented auditing procedures to cope with the complex enterprise fraud methods and the hidden dangers of audit quality and compliance risks brought about by changes in the regulatory environment.

However, the widespread existence of earnings management behavior brings unavoidable risks to audit quality. In order to meet the performance assessment, debt covenants or market expectations, the management of enterprises beautifies financial data through the adjustment of accrual items and the construction of real transactions^[14], and reduces the quality of accounting information^[15], which not only distorts the decision-making usefulness of earnings information, but also may cover up the deep-seated governance problems such as the occupation of funds by major shareholders and the transfer of benefits by related parties. This type of behavior can trigger a double negative effect: on the one hand, the falsely increased profit indicators mislead investors to make wrong decisions^{[16][17]}, and intensify the market speculation atmosphere^[18]; on the other hand, the audit institutions may be forced to adjust the type of audit opinion or simplify the audit procedures due to the higher cost of fraud identification and compliance risks, resulting in a substantial decline in audit quality^[19], and even induce the market chaos of "bad money drives out good". Based on the agency theory and the perspective of information asymmetry, earnings management may have a significant negative impact on audit quality. Therefore, this paper proposes the first hypothesis:

H1: The earnings management behavior of enterprises will reduce the audit quality.

2.2 Earnings Management, Occupation of Funds by Major Shareholders and Audit Quality

The occupation of funds by major shareholders, also known as "major shareholders emptying", refers to the act of major shareholders or actual controllers of listed companies using their control advantages to transfer the funds of listed companies to themselves or their affiliates through unfair related transactions, fund lending and other means. This behavior is essentially a typical manifestation of the agency problem. Major shareholders seek private gains through the "tunnel effect," which harms the interests of small and medium-sized shareholders and listed companies^[20]. From the perspective of agency theory, the management conducts earnings management for the purpose of performance appraisal, financing needs, etc., and beautifies the financial statements through accrual item manipulation, real transaction construction and other means^[20]. This "beautification" of financial data creates a hidden space for major shareholders to occupy funds. For example, the falsely inflated profits make the company's book funds appear abundant, inducing major shareholders to misappropriate funds through related transactions, non-operating fund exchanges, and other means to meet their own interests.

However, when the major shareholder's occupation of funds occurs, it will directly interfere with the normal development of the audit work. On the one hand, the occupation of funds involves complex related-party transactions and fund flows, which increases the difficulty for the audit institution in identifying and verifying them. The auditors need to invest more resources to track the fund's trajectory and assess the authenticity and compliance of the transaction. On the other hand, in order to cover up the occupation of funds, the major shareholder may exert pressure on the audit work, interfere with the independence of the audit, force the audit institution to lower the audit standards or simplify the audit procedures, and then lead to the decline of the audit quality.

It can be seen that earnings management behavior often induces major shareholders to occupy funds, and this occupation of funds further has a negative impact on audit quality, forming a transmission path of "earnings management - occupation of funds by major shareholders - decline in audit quality." Therefore, this paper proposes hypothesis 2:

H2: Earnings management will reduce the audit quality of enterprises by increasing the proportion of

funds occupied by major shareholders.

3. Research Methods and Data

3.1 Model Construction - Earnings Management and Audit Quality

In order to test the hypothesis H1 and examine the impact of earnings management on audit quality, this paper constructs model (1). In model (1), i represents the enterprise, t represents the year, and j represents the industry. AQ_{it} represents the audit quality of the enterprise i in the year t ; $AbsDA_{it}$ represents the earnings management level of the enterprise i in the year t ; $Control_{k,it}$ represents the control variables in this paper, and $Industry_j$, $Year_t$, and ε_{it} respectively represent the industry fixed effect, the annual fixed effect and the random disturbance term. α_0 is the intercept term, α_k is the estimated coefficient of each control variable, and α_1 is used to measure the impact of the degree of earnings management of the enterprise on the audit quality.

$$AQ_{it} = \alpha_0 + \alpha_1 AbsDA_{it} + \sum \alpha_k Control_{k,it} + Industry_j + Year_t + \varepsilon_{it} \quad (1)$$

3.2 Sample Selection and Data Sources

This paper selects the listed companies of Shanghai and Shenzhen A-shares as the research sample and studies the data from 2007 to 2023. The relevant data comes from the CSMAR database. At the same time, this paper eliminates the samples of ST, *ST, financial and major research data missing, and obtains 42854 samples of listed companies.

3.3 Explained Variable

Audit quality (AQ). In order to study the quality of audit reports of listed companies, this paper refers to the methods of Xu (2018), Dong and Sun (2021), first predicts the probability of auditors issuing standard audit opinions, then subtracts the probability of auditors issuing standard unqualified audit opinions from the actual audit opinions issued, and finally takes the negative absolute value of the difference to measure the audit quality^{[21][22]}. In this paper, audit quality is expressed by AQ, and the increase of AQ value means that the audit quality of the enterprise is higher.

3.4 Explanatory Variable

Earnings management (AbsDA). This paper refers to Dechow et al. (1995) and uses the modified Jones model to calculate the controllable accrual profit, and takes the absolute value of the calculated value to measure the degree of earnings management of the enterprise (AbsDA)^[23]. The larger the value of the variable AbsDA, the greater the degree of accrual earnings management of the enterprise.

3.5 Mechanism Variable

Large shareholder capital occupation (second type of agency cost) (Occupy). This paper refers to the practices of Jiang et al. (2010), Wang and Xiao (2011), Liu et al. (2020), and Du Xing and Zhang (2022) to measure the occupation of funds by major shareholders by the ratio of other receivables at the end of the period to the total assets at the end of the period^{[24][25][26][27]}. The larger the value of the variable Occupy, the greater the degree of occupation of funds by the controlling shareholder.

3.6 Control Variables

This paper selects a series of control variables. In addition, this paper adds industry (Industry) and annual (Year) dummy variables to control the fixed effects of industry and year. The definitions of the variables are shown in Table 1.

Table 1: Definition of Variables.

Variable Type	Variable Name	Symbol	Definition
Explained Variable	Audit Quality	AQ	First, the probability of the auditor issuing a standard audit opinion is predicted, then the probability of the

			auditor issuing a standard unqualified audit opinion is subtracted from the actual audit opinion issued, and finally the negative absolute value of the difference is taken to measure the audit quality
Explanatory Variable	Earnings Management	AbsDA	Referring to Dechow et al. (1995), the modified Jones model is used to calculate the controllable accrual profit, and the absolute value of the calculated value is taken to measure the degree of corporate earnings management.
Mechanism Variable	Funds Occupied by Major Shareholders	Occupy	Other receivables at the end of the period/Total assets at the end of the period
Control Variables	Return on Equity	ROE	Net profit/average shareholders' equity
	Debt-to-asset Ratio	LEV	Total liabilities/total assets
	Enterprise Size	Size	ln (total assets)
	Enterprise Growth	Growth	(Current year operating income - last year operating income) / last year operating income
	Board Size	Boardsize	Number of board members
	Proportion of Independent Directors	IndDirectorRatio	Number of independent directors/total number of directors
	Fixed Assets Ratio	Fixed	Net fixed assets/total assets
	Tobin's Q	TobinQ	Total market value/total assets
	Industry	Industry	industry fixed effects
	Year	Year	year fixed effects

3.7 Descriptive Statistics

The descriptive statistics of each research variable are shown in Table 2. The sample mean of audit quality (AQ) is -0.04, with a maximum value of -0.001, a minimum value of -0.998, and a standard deviation of 0.144. This reveals a notable difference in audit quality among most enterprises. The average value of earnings management (AbsDA) is 0.055. This indicates that most enterprises have a relatively low degree of earnings management in the current evaluation sample. The occupation of funds by major shareholders (Occupy) is used as a mechanism variable. The intensity level is measured by the other receivables at the end of the period divided by total assets at the end of the period. The maximum value is 0.726, the minimum is 0, and the average is 0.016. This result indicates that increased supervision has prompted listed companies to disclose the flow of funds on a regular basis. Such oversight has curbed the illegal acts of major shareholders to some extent. However, some companies are still controlled by shareholders who occupy the funds. Overall, the statistical results provide important background information. They help further explore how fund ownership by major shareholders affects audit quality and earnings management in enterprises.

Table 2: Descriptive Statistics of Main Variables.

Variables	N	mean	p50	sd	min	max
AQ	42854	-0.046	-0.011	0.144	-0.998	-0.001
AbsDA	42854	0.055	0.038	0.055	0	0.567
Occupy	42840	0.016	0.007	0.030	0	0.726
ROE	42854	0.057	0.070	0.180	-8.393	3.922
LEV	42854	0.426	0.420	0.206	0.027	0.925
Size	42854	22.18	21.98	1.303	19.41	26.45
Growth	42854	3.821	0.100	654.3	-2.733	134607.06
Boardsize	42854	2.127	2.197	0.202	0.693	2.890
IndDirectorRatio	42854	37.57	36.36	5.582	0	80

Fixed	42854	0.216	0.183	0.162	0	0.971
TobinQ	42854	2.075	1.612	2.311	0.611	259.1

3.8 Correlation Analysis

To measure the relationship between the variables, Pearson correlation analysis was employed, and the results are presented in Table 3. As shown in Table 3, the Pearson correlation coefficient between earnings management (AbsDA) and audit quality (AQ) is -0.111, which is significantly negative at the 1% level. The results show a significant negative correlation between earnings management (AbsDA) and audit quality (AQ).

Table 3: Correlation Analysis.

	AQ	AbsDA	ROE	LEV	Size
AQ	1				
AbsDA	-0.111***	1			
ROE	0.120***	-0.058***	1		
LEV	-0.190***	0.083***	-0.069***	1	
Size	0.051***	-0.078***	0.110***	0.470***	1
	Growth	Boardsize	IndDirectorRatio	Fixed	TobinQ
Growth	1				
Boardsize	0.00200	1			
IndDirectorRatio	-0.00400	-0.519***	1		
Fixed	0.00200	0.152***	-0.053***	1	
TobinQ	-0.00200	-0.079***	0.025***	-0.069***	1

Note: ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively. The same applies below.

4. Empirical Results

4.1 Benchmark Regression: Earnings Management and Audit Quality

To examine the effect of earnings management (AbsDA) on audit quality (AQ), a regression analysis was conducted using model (1), with results presented in Table 4. Column (1) indicates that, without controlling for variables or adjusting for year and industry, higher earnings management significantly decreases audit quality, with a negative relationship at the 1% significance level. Column (2) introduces control variables, while column (3) further controls for year and industry effects. All results consistently indicate that increased earnings management substantially impairs audit quality. These findings support hypothesis H1: heightened earnings management by enterprises reduces audit quality.

Table 4: Basic Regression Results of Earnings Management and Audit Quality.

VARIABLES	(1) AQ	(2) AQ	(3) AQ
AbsDA	-0.2932*** (-23.1386)	-0.1716*** (-12.9603)	-0.1875*** (-14.0813)
ROE		0.1220*** (17.8392)	0.1093*** (15.9268)
LEV		-0.1425*** (-34.8038)	-0.1739*** (-39.7414)
Size		0.0108***	0.0161***

		(15.6083)	(21.1576)
Growth		0.0006	0.0021
		(0.2336)	(0.8689)
Boardsize		-0.0053	-0.0154***
		(-1.0364)	(-2.9183)
IndDirectorRatio		0.0000	-0.0001
		(0.1555)	(-0.6610)
Fixed		0.0018	0.0145**
		(0.3832)	(2.5712)
TobinQ		-0.0073***	-0.0047***
		(-10.7298)	(-6.7538)
Constant	-0.0300***	-0.1955***	-0.2782***
	(-30.5582)	(-10.1843)	(-13.6981)
Observations	42,854	36,317	36,317
R-squared	0.012	0.055	0.076
Year FE	NO	NO	YES
Industry FE	NO	NO	YES

4.2 Robustness Test

4.2.1 Change the Sample Time Range

In order to verify the research conclusions obtained from the basic regression, this paper adopts the method of changing the sample time range, deleting the data of the first and last four years in the sample range, that is, regressing the data of 2011-2019 according to model (1), and the results are shown in Table 5.

The results show that after changing the sample time range, the impact of earnings management (AbsDA) on audit quality (AQ) is still significantly negative at the 1% level, indicating that the increase in the degree of earnings management will lead to a decline in audit quality, and the results are robust.

Table 5: Change the Sample Time Range - Earnings Management (AbsDA) and Audit Quality (AQ).

VARIABLES	(1) AQ	(2) AQ	(3) AQ
AbsDA	-0.3117*** (-18.0522)	-0.2300*** (-13.5435)	-0.2206*** (-12.9435)
ROE		0.0542*** (10.8428)	0.0526*** (10.5676)
LEV		-0.1866*** (-35.7084)	-0.2112*** (-37.9504)
Size		0.0177*** (19.7310)	0.0219*** (22.7043)
Growth		-0.0000 (-0.0092)	0.0000 (0.0440)
Boardsize		-0.0101* (-1.7940)	-0.0119** (-2.0921)
IndDirectorRatio		-0.0001 (-0.4425)	-0.0001 (-0.6237)

Fixed		-0.0207***	0.0048
		(-3.5951)	(0.6668)
TobinQ		-0.0063***	-0.0053***
		(-12.7497)	(-10.6617)
Constant	-0.0279***	-0.3066***	-0.3916***
	(-20.7428)	(-13.7148)	(-16.3992)
Observations	22,314	22,314	22,314
R-squared	0.014	0.083	0.107
Year FE	NO	NO	YES
Industry FE	NO	NO	YES

4.2.2 Instrumental Variable Method Based on the First-Order Lag of Explanatory Variables

In order to avoid the estimation results being biased due to the possible reverse causal relationship between the explanatory variable (AbsDA) and the explained variable (AQ), the omitted variable bias and other endogenous problems, this paper uses the instrumental variable method based on the first-order lag of the explanatory variable to conduct a robustness test. By using the lagged one-period value of the explanatory variable AbsDA as the instrumental variable, and taking advantage of its strong correlation with the current AbsDA and its exogenous characteristics, such as historical data and the disturbance term of the current model, the correlation between the endogenous explanatory variable and the error term is effectively eliminated. On this basis, the instrumental variable regression model is employed to re-estimate the relationship between variables using the two-stage least squares method, thereby obtaining more reliable estimates of causal effects. It not only alleviates the interference of endogeneity on the research conclusions but also further verifies the robustness and reliability of the main test conclusions. The results obtained by the instrumental variable method in this paper are shown in Table 6.

From the regression results, the regression coefficient of the lagged one-period earnings management (L.AbsDA) on the current earnings management (AbsDA) in the first stage is 0.226, which is significantly positive at the 1% level, indicating that the instrumental variable is well correlated with the endogenous explanatory variable, and there is no weak instrumental variable problem. The regression results of the second stage show that the estimated coefficient of earnings management (AbsDA) on the audit quality (AQ) of the enterprise is -0.863, which is significantly negative at the 1% level, and the direction is consistent with the benchmark regression conclusion. This indicates that, after considering the potential endogenous problems, the core conclusion — that the higher the degree of earnings management, the lower the audit quality of the enterprise — is still robust, which further supports the reliability of the research conclusion.

Table 6: Instrumental Variable Method Based on the Explanatory variable of the First Lag.

VARIABLES	(1)	(2)
L.AbsDA	0.226*** (0.007)	
AbsDA		-0.863*** (0.083)
ROE	-0.009*** (0.002)	0.057*** (0.008)
LEV	0.023*** (0.002)	-0.190*** (0.007)
Size	-0.004*** (0.000)	0.020*** (0.001)
Growth	-0.000*** (0.000)	0.000 (0.000)
Boardsize	-0.009***	-0.019***

	(0.002)	(0.005)
IndDirectorRatio	-0.000	-0.000
	(0.000)	(0.000)
Fixed	-0.022***	-0.004
	(0.002)	(0.007)
TobinQ	0.001***	-0.003***
	(0.000)	(0.001)
N	35,467	35,467
adj. R ²	0.076	0.035
F	204.68	178.42
Year FE	YES	YES
Industry FE	YES	YES

4.2.3 Propensity Score Matching

To mitigate the selection bias in the observed data, this paper employs the propensity score matching (PSM) method to process and analyze the data. In order to distinguish the difference of earnings management level of enterprises, the treat variable is constructed to group the AbsDA data: the enterprises below the average value of AbsDA are classified as the control group, and the value of treat is equal to 0; the enterprises above the average value are set as the experimental group, and the value of treat is equal to 1. This paper specifically adopts the kernel matching method. The variable balance before and after matching is shown in Figure 2, and the kernel density function before and after matching is shown in Figure 3 and Figure 4 respectively.

As shown in Figure 2, the variable deviation before kernel matching is relatively significant, while the variable deviation after kernel matching is within 10%, indicating a good variable matching effect. Figures 3 and 4 are the kernel density function diagrams before and after the kernel matching; the horizontal axis represents the propensity score, and the vertical axis represents the kernel density. As shown in the figure, after matching, the curve shape of the experimental group is closer to that of the control group, and the common support hypothesis test is passed.

Based on the data processed by PSM, a multiple regression analysis was carried out, introducing both annual and industry fixed effects simultaneously. The relevant results are shown in Table 7. As shown in Table 7, the first column presents the regression results before PSM, and the second column displays the multiple regression analysis results of the data after PSM processing. The results show that the audit quality of enterprises with high earnings management level is significantly lower, the estimated coefficient is -0.013, and it is negative at the 1% significance level. This shows that the higher the degree of earnings management, the worse the audit quality of the enterprise, and this conclusion is robust.

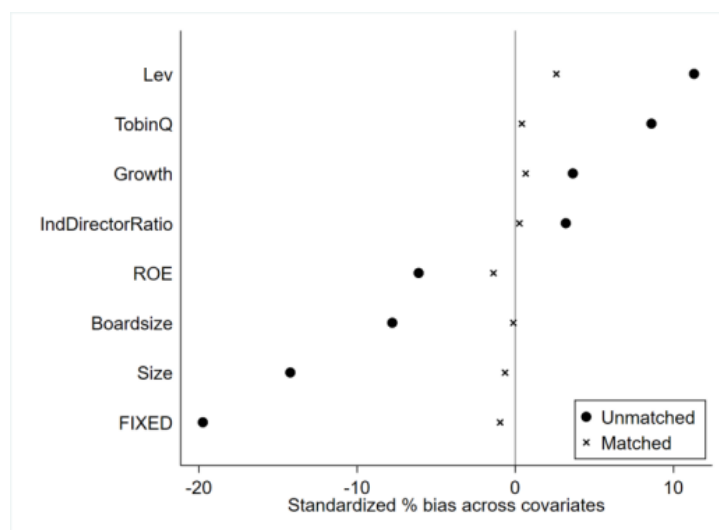


Figure 2: Balance of Each Variable Before and After Matching.

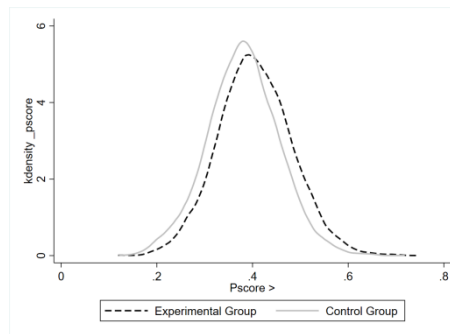


Figure 3: Kernel Density Function Before Kernel Matching.

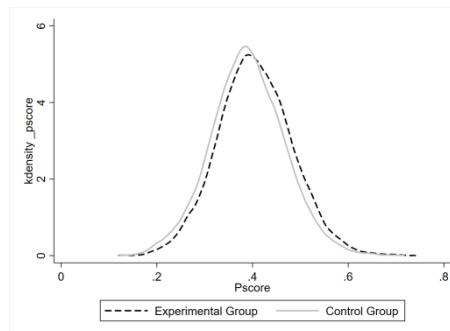


Figure 4: Kernel Density Function Diagram After Kernel Matching.

Table 7: Regression Results Before and After PSM.

VARIABLES	(1) AQ	(2) AQ
AbsDA	-0.188*** (-10.45)	
treat		-0.013*** (-8.66)
ROE	0.109*** (12.09)	0.112*** (12.29)
LEV	-0.174*** (-29.59)	-0.176*** (-29.78)
Size	0.016*** (19.52)	0.016*** (19.74)
Growth	0.002 (0.74)	0.002 (0.58)
Boardsize	-0.015*** (-2.73)	-0.014** (-2.50)
IndDirectorRatio	-0.000 (-0.64)	-0.000 (-0.55)
Fixed	0.015** (2.40)	0.018*** (2.89)
TobinQ	-0.005*** (-5.74)	-0.005*** (-5.86)
Constant	-0.268*** (-11.60)	-0.284*** (-12.30)
Observations	36,317	36,314
R-squared	0.076	0.073
Industry FE	YES	YES
Year FE	YES	YES

4.3 Mechanism Test

In the research system of corporate financial governance and audit supervision, the relationship between earnings management and audit quality has always been the focus of academic attention. However, the complex agency problems within the enterprise may become the potential influencing factors of the relationship between the two. As a typical manifestation of the second type of agency cost, the behavior of major shareholders occupying funds provides an important perspective for understanding this transmission mechanism. When the major shareholder allocates the enterprise's funds for private interests, it not only distorts the enterprise's resource allocation but also affects the financial information. In this context, the introduction of the major shareholder's occupation of funds as a mechanism variable allows for an in-depth analysis of its role in the relationship between corporate earnings management and audit quality, aiming to improve corporate governance, optimize audit supervision, and provide a more targeted theoretical basis and practical reference. Therefore, this paper constructs models (2), (3) and (4) for in-depth analysis.

$$\text{Occupy}_{it} = \beta_0 + \beta_1 \text{AbsDA}_{it} + \sum \beta_k \text{Control}_{k,it} + \text{Industry}_j + \text{Year}_t + \varepsilon_{it} \quad (2)$$

$$\text{AQ}_{it} = \beta_0 + \beta_1 \text{Occupy}_{it} + \sum \beta_k \text{Control}_{k,it} + \text{Industry}_j + \text{Year}_t + \varepsilon_{it} \quad (3)$$

$$\text{AQ}_{it} = \beta_0 + \beta_1 \text{Occupy}_{it} + \beta_2 \text{AbsDA}_{it} + \sum \beta_k \text{Control}_{k,it} + \text{Industry}_j + \text{Year}_t + \varepsilon_{it} \quad (4)$$

The regression results of models (2), (3) and (4) are shown in Table 8. Column (1) shows the benchmark regression results; column (2) shows the regression results of earnings management (AbsDA) as an explanatory variable on the occupation of funds by major shareholders (Occupy), and its estimated coefficient is 0.0142, which is significantly positive at the 1% level, indicating that when the company strengthens earnings management, the motivation for major shareholders to occupy funds will be enhanced; column (3) shows the regression results of the occupation of funds by major shareholders (Occupy) on audit quality (AQ), and its estimated coefficient is -0.2705, which is significantly negative at the 1% level, indicating that when major shareholders occupy more funds, it will damage audit quality; column (4) considers earnings management (AbsDA) and the occupation of funds by major shareholders (Occupy) at the same time, and performs regression on audit quality (AQ). The absolute value of the estimated coefficient of AbsDA is smaller than that of column (1). The estimated coefficient of the intermediary variable Occupy is -0.2594, which remains significantly negatively correlated.

The results show that the occupation of funds by major shareholders is part of the channel through which earnings management affects audit quality; that is, earnings management will further weaken the effectiveness of the audit by increasing agency costs (occupation of funds). Auditors should pay special attention to the flow of funds of major shareholders when evaluating companies with high earnings management, as these companies may also face the issue of capital encroachment, which increases audit risk. Therefore, hypothesis H2, that earnings management will further damage audit quality by aggravating the occupation of funds by major shareholders, is supported.

Table 8: Regression Results of the Occupation of Funds by Major Shareholders.

VARIABLES	(1) AQ	(2) Occupy	(3) AQ	(4) AQ
AbsDA	-0.1875*** (-14.0813)	0.0142*** (5.5778)		-0.1839*** (-13.8163)
Occupy			-0.2705*** (-9.8283)	-0.2594*** (-9.4450)
ROE	0.1093*** (15.9268)	-0.0273*** (-20.7810)	0.1056*** (15.2830)	0.1023*** (14.8228)
LEV	-0.1739*** (-39.7414)	0.0172*** (20.5182)	-0.1745*** (-39.7221)	-0.1695*** (-38.5420)
Size	0.0161*** (21.1576)	0.0000 (0.0413)	0.0168*** (22.1128)	0.0161*** (21.1848)
Growth	0.0021 (0.8689)	-0.0005 (-1.1044)	0.0011 (0.4648)	0.0019 (0.8190)
Boardsize	-0.0154*** (-2.9183)	0.0012 (1.2284)	-0.0129** (-2.4439)	-0.0150*** (-2.8601)

IndDirectorRatio	-0.0001 (-0.6610)	0.0000 (0.7038)	-0.0001 (-0.5491)	-0.0001 (-0.6283)
Fixed	0.0145** (2.5712)	-0.0197*** (-18.3015)	0.0153*** (2.7099)	0.0094* (1.6588)
TobinQ	-0.0047*** (-6.7538)	0.0008*** (5.6032)	-0.0049*** (-6.9630)	-0.0045*** (-6.4828)
Constant	-0.2782*** (-13.6981)	0.0077** (1.9709)	-0.3054*** (-15.0915)	-0.2763*** (-13.6157)
Observations	36,317	36,308	36,308	36,308
R-squared	0.076	0.105	0.074	0.078
Industry FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

4.4 Heterogeneity Analysis

4.4.1 Enterprises in the Eastern, Central and Western Regions

The difference in the regions where enterprises are located may affect the effect of earnings management on audit quality. This paper categorizes the listed companies into three regions: central, eastern, and western. The regression results after classification are shown in Table 9.

As shown in Table 9, regardless of the differences in the regions where the enterprises are located, the increase in the degree of earnings management will damage the audit quality. Furthermore, for the western region, the impact of increased earnings management on audit quality is more significant compared to the central and eastern regions. Possible reasons are: the degree of openness of the western market is lower than that of the central and eastern regions, the information asymmetry is more serious, the earnings management behavior of enterprises is more hidden, and the risk identification and response ability of auditors is relatively weak, which leads to the greatest impact of accrual earnings management on audit quality. The financial markets in the central and eastern regions are well-developed, with institutional investors and analysts tracking them intensively. External supervision also constrains earnings management, which to some extent mitigates its negative impact on audit quality, making the negative impact relatively mild.

Table 9: Heterogeneity test: Central, Eastern and Western Enterprises.

VARIABLES	(1)	(2)	(3)
	Central	Eastern	Western
	AQ	AQ	AQ
AbsDA	-0.178*** (-5.61)	-0.201*** (-13.80)	-0.244*** (-6.17)
ROE	0.068*** (7.35)	0.067*** (14.06)	0.039*** (4.45)
LEV	-0.248*** (-24.53)	-0.197*** (-41.20)	-0.242*** (-19.40)
Size	0.029*** (15.67)	0.021*** (26.20)	0.021*** (9.75)
Growth	-0.003*** (-4.27)	-0.000 (-0.65)	0.000 (0.29)
Boardsize	-0.011 (-1.12)	-0.013*** (-2.67)	0.009 (0.70)
IndDirectorRatio	-0.000	-0.000	-0.001

	(-1.13)	(-0.27)	(-1.44)
Fixed	0.022*	0.009	0.015
	(1.76)	(1.34)	(1.03)
TobinQ	-0.003***	-0.004***	0.001
	(-3.78)	(-9.37)	(1.23)
Constant	-0.499***	-0.382***	-0.362***
	(-10.29)	(-14.80)	(-6.89)
Observations	6,962	30,109	5,574
R-squared	0.151	0.097	0.126
Industry FE	YES	YES	YES
Year FE	YES	YES	YES

4.4.2 Technology-intensive, Asset-intensive and Labor-intensive Enterprises

The different technical attributes of the enterprise industry may affect the role of earnings management on audit quality. This paper categorizes enterprises into groups based on industry technology attributes (technology-intensive, asset-intensive, and labor-intensive) and examines the heterogeneity of the impact of earnings management (AbsDA) on audit quality (AQ). The regression results are shown in Table 10.

As shown in Table 10, in terms of the intensity of negative impact, the effect of earnings management on audit quality is most significant for asset-intensive enterprises, while it is the least significant for labor-intensive enterprises. The possible reasons are: in asset-intensive industries (such as steel and energy industries), the proportion of fixed assets is high, and the space for depreciation and impairment judgment is large. The means for enterprises to conduct earnings management are more hidden, such as adjusting profits through asset impairment. The risk identification difficulty faced by auditors is substantial, which makes the impact of earnings management on audit quality the strongest. In labor-intensive industries (such as the textile and OEM industries), the business model is relatively simple, and the means of earnings management are relatively intuitive, including cross-period confirmation of income. Auditors are more likely to identify them, and the negative impact is the weakest.

Table 10: Heterogeneity test: Technology-intensive, Asset-intensive, and Labor-intensive Enterprises.

VARIABLES	(1)	(2)	(3)
	Technology-intensive AQ	Asset-intensive AQ	Labor-intensive AQ
AbsDA	-0.221*** (-12.03)	-0.273*** (-8.58)	-0.152*** (-7.27)
ROE	0.089*** (14.64)	0.037*** (5.05)	0.052*** (8.08)
LEV	-0.197*** (-34.02)	-0.239*** (-26.70)	-0.205*** (-27.98)
Size	0.018*** (17.54)	0.024*** (15.85)	0.026*** (21.48)
Growth	-0.000 (-0.99)	-0.002*** (-2.68)	0.000 (0.30)
Boardsize	-0.008 (-1.28)	-0.008 (-0.89)	-0.013* (-1.78)
IndDirectorRatio	0.000 (1.05)	-0.001 (-1.60)	-0.001** (-2.43)
Fixed	0.023*** (2.66)	0.001 (0.15)	0.019** (2.04)
TobinQ	-0.004*** (-9.80)	-0.001 (-0.55)	-0.001* (-1.72)

Constant	-0.287*** (-2.98)	-0.355*** (-3.51)	-0.461*** (-14.49)
Observations	19,540	7,935	14,924
R-squared	0.105	0.135	0.101
Industry FE	YES	YES	YES
Year FE	YES	YES	YES

4.4.3 Manufacturing and Non-manufacturing Enterprises

Whether an enterprise is a manufacturing enterprise may affect the impact of earnings management on audit quality. This paper categorizes enterprises into manufacturing and non-manufacturing enterprises to investigate the heterogeneity of the impact of earnings management (AbsDA) on audit quality (AQ). The regression results are shown in Table 11.

As shown in Table 11, earnings management (AbsDA) and audit quality (AQ) are significantly negatively correlated. From the perspective of the intensity of negative impact, the estimated coefficient of AbsDA for manufacturing enterprises is -0.216, and its absolute value is greater than that of AbsDA for non-manufacturing enterprises, indicating that the earnings management of manufacturing enterprises has a more significant impact on audit quality. The possible reasons are that the production process of manufacturing enterprises is lengthy, involving multiple links such as procurement, production, inventory, and sales. The accrual items are rich, and the earnings management of enterprises is more hidden. Auditors need to cover a longer business chain and more accounting estimates and judgments. The difficulty of risk identification is great, so the impact of earnings management on audit quality is stronger.

Table 11: Heterogeneity test: Manufacturing and Non-manufacturing Enterprises.

VARIABLES	(1) Manufacturing AQ	(2) Non-manufacturing AQ
AbsDA	-0.216*** (-13.70)	-0.187*** (-8.87)
ROE	0.068*** (14.43)	0.051*** (7.89)
LEV	-0.224*** (-46.59)	-0.180*** (-24.60)
Size	0.023*** (27.53)	0.021*** (17.95)
Growth	-0.000* (-1.67)	0.000 (0.24)
Boardsize	-0.013** (-2.57)	-0.005 (-0.70)
IndDirectorRatio	0.000 (0.21)	-0.001** (-2.11)
Fixed	0.013** (1.98)	0.014 (1.50)
TobinQ	-0.003*** (-8.20)	-0.002*** (-3.25)
Constant	-0.351*** (-8.37)	-0.397*** (-12.45)
Observations	28,145	14,709
R-squared	0.115	0.090
Industry FE	YES	YES
Year FE	YES	YES

5. Conclusions and Policy Recommendations

5.1 Conclusions

Based on the background of continuous improvement in the financial information governance and audit supervision system in the capital market, this paper discusses the impact of earnings management on audit quality in enterprises and its underlying mechanism. In the governance framework of separating ownership and management rights in modern enterprises, earnings management is a common means by which management or major shareholders can influence financial information, affecting not only the quality of financial reports but also the effectiveness and independence of audit supervision. In order to study the impact of earnings management on the audit quality of enterprises and the path of action, this paper selects the data of Shanghai and Shenzhen A-share listed companies from 2007 to 2023 as the research sample, takes audit quality as the explained variable, and sets accrual earnings management as the explanatory variable. In addition, this paper uses the occupation of funds by major shareholders as a mechanism variable, and the empirical research results show that: (1) In the basic regression, earnings management behavior will damage the audit quality of enterprises. (2) In the mechanism analysis, earnings management behavior can further lead to the decline of audit quality by aggravating the occupation of funds by major shareholders. (3) The heterogeneity test shows that the effect of earnings management on the reduction of audit quality is more significant in Western regions, asset-intensive and manufacturing enterprises.

5.2 Policy Recommendations

Based on the above research conclusions, in order to effectively suppress the negative impact of earnings management on audit quality and cut off the intermediary transmission path of the occupation of funds by major shareholders, this paper puts forward three aspects of policy recommendations, which aim to optimize the corporate governance structure, strengthen the effectiveness of audit supervision and the information quality of the capital market. (1) From the perspective of the regulatory authorities, it is necessary to strengthen the penetration-type supervision and punishment of the occupation of funds by major shareholders, focus on the verification of enterprises with excessive occupation ratios, and increase the cost of violations by means of high fines and market bans. At the same time, we should promote the establishment of a protection mechanism for small and medium-sized shareholders to enhance their ability to check and balance the behavior of major shareholders. (2) From the perspective of audit institutions and industry associations, the sensitivity of audit procedures to earnings management and capital occupation should be improved. Audit institutions have listed related transactions of major shareholders as high-risk areas and used big data to track the flow of funds. Industry associations have formulated special audit guidelines to standardize the audit standards for enterprises with high proportions of occupation, explore the "risk warning disclosure" mechanism, and strengthen the disclosure function of audit reports on governance defects. (3) From the perspective of internal governance of enterprises, the structure of the board of directors and the internal control system need to be improved. For example, the proportion of independent directors should be increased, and an audit committee should be established to supervise financial compliance; a digital internal control system should be built to monitor the approval of funds and earnings management in real time; the salary incentive mechanism for management should be optimized, and the occupation of funds should be included in the assessment to cut off the transmission path of earnings management and the occupation of funds.

5.3 Research Limitations

This study still has some limitations. (1) In terms of variable measurement, the proxy indicators of earnings management, audit quality and the occupation of funds by major shareholders may not fully reflect the real situation. For example, discretionary accruals are difficult to cover all forms of real earnings management, and there are measurement errors; (2) The common impact of factors such as strategic differences of enterprises and macroeconomic fluctuations on earnings management, fund occupation and audit quality is not considered, resulting in causal inference bias. Future research can be further advanced in the following directions. On the one hand, in view of the limitations of variable measurement, subsequent studies can construct a multi-dimensional index system, such as quantifying the risk wording of audit reports by combining text analysis technology, supplementing the measurement of earnings management by using cash flow anomaly indicators, and incorporating hidden signals of capital occupation such as the equity pledge rate of major shareholders and the frequency of related party

transactions to improve the accuracy of variable characterization. On the other hand, in order to fully analyze the common influence of multiple factors, further control the mixed variables such as the strategic characteristics of enterprises and macroeconomic indicators, separate the net effect of the occupation of funds by major shareholders in the relationship between earnings management and audit quality, and further distinguish the heterogeneous transmission mechanism of state-owned enterprises and private enterprises and highly competitive industries, so as to provide more targeted theoretical reference and practical guidance for improving corporate governance and audit supervision.

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